

Application No. 10/028,871

Attorney No. 15540US01

**REMARKS**

The present application includes claims 8-14. Claims 8-14 were rejected by the Examiner. Claims 10 and 14 have been amended by this response. New claims 15-21 have been added. Additionally, the Abstract has been amended to satisfy the 150 word requirement.

Claims 10 and 14 were objected to as being dependent upon a rejected base claim. By this response, claims 10 and 14 have been rewritten in independent form incorporating the limitations of their base claims. Thus, the Applicant respectfully submits that claims 10 and 14 should be allowable. The prior art of record does not teach or suggest the limitations of claims 10 and 14.

Claims 8-9 and 11-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Huber et al. (U.S. Patent No. 5,247,254) in view of Huber (U.S. Patent No. 5,107,379).

The Applicant turns to the rejection of claims 8-9 and 11-13 under 35 U.S.C. § 103(a) as being unpatentable over Huber '254 in view of Huber '379.

The Huber '254 patent relates to a read channel detection circuit providing automatic self-testing and mapping of media flaws. (Abstract.) The flaw detection circuit outputs an error signal in response to distortions in the readback signal caused by a defect on the disk drive medium. (Abstract; col. 2, lines 64-66.) The flaw detection

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circuit splits the readback signal into in-phase and quadrature-phase components, squares the components, and sums the components to generate a phase independent flaw signal having an amplitude modulates in relation to the locations of the defects. (Abstract; col. 3, lines 11-28.)

The Huber '254 patent utilizes a recovered digital clock signal that has a period equal to one detent. (col. 5, lines 16-19.) The clock signal of the Huber '254 patent is divided by four to produce in-phase and quadrature-phase local oscillation components waveforms to be multiplied with the analog readback signal, squared, and summed to produce an output signal. (col. 5, lines 19-65; col. 7, lines 9-14.) The output clock signal is used as the local oscillator in flaw detection. (col. 6, line 25- col. 7, line 9.) The output clock signal of the Huber '254 patent is thus a preset, fixed value and is not responsive to digitized read signals and digital peak detector output as recited in independent claim 8 of the present application.

Additionally, the system of the Huber '254 patent includes a pulse detector 66 converting an analog sinusoid waveform into a series of digital ones and zeros. (col. 11, lines 1-5). A data separator 67 receives the series of digital ones and zeroes generated by the pulse detector 66 and produces sync data, which is OR'ed with the pulsed flaw signal and then coupled to the RLL decoder 69. (col. 11, lines 5-13.) The "sync data" is not defined in the Huber '254 patent, but there is no teaching or suggestion that the data separator 67 is akin to the sequence detector recited in independent claim 8, where the sequence detector is responsive to the digitized read signals for receiving a stream of the

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digitized read signals and determining a corresponding sequence of binary digital signals that is likely to be represented thereby.

The Huber '379 patent relates to reducing intersymbol interference by slimming the rising edge and slurring the falling edge of an isolated input magnetic pulse and providing feedback to produce a compensating waveform that is substantially complimentary to a certain portion (occurring after  $T_{min}$ ) of the filtered waveform. (Abstract; col. 2, lines 38-44.) The complimentary waveform is then added to the filtered waveform to produce a waveform that is substantially a step function. (Abstract; col. 2, lines 45-60.) In Huber '379, a read waveform is processed to determine the presence or absence of a transition within each signaling element. (col. 7, lines 45-48.) The available time window for detection, called the data bit cell or detent time, is completely determined by the rate of the modulation code used. (col. 7, lines 48-50; col. 8, lines 49-61.) The Huber '379 patent does not discuss a digital peak detector, a sequence detector, or an RLL decoder as recited in the pending claims of the present application.

Thus, the teachings of the Huber '379 patent do not cure the deficiencies of the Huber '254 patent with respect to the claimed integrated circuit synchronous read channel of the present application.

The Applicant respectfully submits that the prior art of record also does not teach or suggest all the limitations of the dependent claims 9 and 11-13 of the present application for the reasons recited above as well as additional distinctions. For example, the Huber patents do not teach or suggest digital pulse shaping filter circuitry including

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variable filter parameters or programmable filter parameters. Thus, the Applicant respectfully submits that dependent claims 9 and 11-13 should be allowed.

By this Response, new claims 15-21 have been added. Claims 15-21 depend from claim 8 and recite additional details regarding the sequence detector or timing recovery circuit. The Applicant submits that the limitations of claims 15-21 are also not taught or suggested by the prior art of record.

The Applicant respectfully submits that the cited prior art does not teach or suggest the limitations of the claimed invention in their entirety. Therefore, the Applicant respectfully submits that claims 8-21 should be allowable.

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CONCLUSION

The Applicant respectfully submits that the present application is in condition for allowance. The Applicant thanks the Examiner for his work in examining the application and the prior art. If the Examiner has any questions or the Applicants can be of any assistance, the Examiner is invited and encouraged to contact the Applicants at the number below.

The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account of MHM, Account No. 13-0017.

Respectfully submitted,

Date: January 17, 2006

  
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